Kleinrock

Misc. N. W. Note #10

UCLA

COMPUTER SCIENCE

SITE PROFILE

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UCLA

Network Measurement Center

XDS Sigma 7

IMP #1

HOST #0

I.

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Network Communication Agent:	Anita Coley	(213) 825-4797
Operator:	Anita Coley	(213) 825-4797

Mailing Address

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II. Installation is research oriented and provides limited service facilities to local researchers. Network activities are supported by the Sigma Experimental (SEX) time-sharing system. SEX allows each process a virtual address space of 128K words. The process structure is rather flat, consisting of a MASTER (or EXEC) process and its subprocesses all at the same level. The file system allows very general directory structures.

III. A. Primary computer is an XDS Sigma 7 with 32K 32 bit words, with memory map option allowing addressing of 128K virtual words.

B. Peripheral equipment

1. Four rotating disc memories, each with 6.2 megabyte capacity.
2. Communications controller with 12 ports.
3. Two magnetic tape units (9 track, 800 bpi)
4. Line printer (132 columns, 600 lpm)

5. Card reader (1500 cpm)
6. Operator's console (ASR 35 Teletype)
7. DEC 340 graphics display
8. Two IMLAC PDS-1 graphics displays
9. Other consoles (model 37 Teletypes, Model 33 teletypes, Datapoint 3300).

IV A. SEX supports teletype-like terminals: Teletype Models 33 and 37, Computer Terminal Corporation Datapoint 3300.

B. Character encoding is 7 bit USASCII. On input, the eight bit is ignored, on output it is always set to zero. No action is taken on special characters; the system assumes absence of lower case text capabilities.

C. Local interaction is full-duplex. Network interaction will be treated as half-duplex and line mode.

E. The attention getting character is the break or interrupt. For network interactions an interrupt on our send connection will take the "console" up a level, an interrupt on our receive connection will interrupt the current process provided it allows. itself to be interrupted.

V. A. Network users will compete for system resources. The number of network users will be dynamically limited with an upper bound of 10. SEX is operational weekdays between 1000 and 1700 local time. The time from 1000 to 1400 is reserved for experimentation and system development. The time from 1400 to 1700 is open to users (local and network). This schedule is subject to change.

B. Rate structure for "resources" used is underfired.

C. Standard buffer size is 16K bits.

D. No long term storage is available to network users.

VI. Interests

A. Measurements

1. Network studies are a primary research area at UCLA. We are involved in measurement of Network activity and performance, building models of Network behavior and simulation studies on the Network.

2. Systems studies are an area of activity also. We are studying scheduling, resource allocation, and systems performance.

B. Computer Design

We are interested in computer design and in developing tools to aid in the design effort. (DCDS)

C. Meta Compilers

We are interested in developing and using Meta Compilers. (META 5, META 7)

D. Networking

We are interested in investigating the advantages of computer network and plan to engage in the use at other sites to probe the capabilities of the network.

VII. To log on to SEX the following dialog must take place (characters transmitted by user are underlined, each user transmission should be terminated by a LF.)

LOG ON

user id
!

The user id for the network users is ARPA.

To log out of SEX the user should type the character X if he is in the MASTER process, or cause his NCP to send "interrupt" enough times to cause control to be passed to the MASTER process. The user is successfully logged off when the message LOG ON appears at his terminal.

Additional information about user interaction with SEX can be found in the SEX Beginners Guide.

VIII. Communication with the computer operator is not possible. The operator may be contacted by telephone at (213) 825-4797 from 0900 to 1800 local time on weekdays.

IX. Documentation for users:

SEX Beginners Guide - A simple users manual.

SEX Notebook - System documentation

The above documents are available from the Network Information Center.

X. Programs Available to Network Users

No unusual programs are currently available. This section will be updated as time goes by, included however, are statements about programs we hope to have available soon, and some simple programs.

A. META 7

META 7 is one of the family of META-compilers. It is basically a Top-down fast-back, syntax-directed compiler.

META 7 accepts as input languages specified in quasi BNF (restrictions and extensions given in documentation). In addition to syntax rules there are extensive facilities provided to the compiler writer--data manipulation, declarations, tables, I/O facilities, etc., which greatly increase the power and usefulness of the system. As in the previous META series, semantics is specified by inserting imperatives within the syntax description. At present META 7 puts out code for the Sigma 7 Assembler. In the works is a 2-pass version which will put out re-locatable object code for the Sigma 7.

As of January 15, 1971, META 7 is going through the transition from experimental to useable. It has been implemented on the Sigma 7 for the Batch and Time-sharing (SEX) operating systems. A 360 version is also being done. Existing documentation is out of date, revisions are under way. For more information, contact Tome Leavitt, Frank Webster, or Rollin Weeks at UCLA, phone (213) 825-2225.

B. DCDS

DCDS (Digital Control Design System) is an aid in the Design and Testing of Digital hardware, the DCDL Language provide means for specifying registers, data patterns and control lines which make up a piece of digital hardware.

The DCDL Language is input to the DCDL compiler which outputs data and instructions to the simulator interpreter which does the actual simulation.

The DCDS system is described in the report "A digital Control Design System," H. Potash, May 1969, Reprot No. 69-21. The latest version of the syntax of the DCDL Language is found in the reprot "The Syntax of DCDL," Oct, 10, 1970. For more information, contact Frank Heath or Tom Leavitt (Computer Science Dept.) at UCLA, phone (213) 825-2225.

C. TIMMY

TIMMY is a simple minded question answering program. Best results are obtained by beginning each question with an interrogative. Each input line is terminated by a new line. To start TIMMY:

S*Ø.TIMMY:C n/l

To terminate conversation with TIMMY, simply say:

GOODBYE n/l

D. WHO

WHO is a program which lists the current users signed on to the system. WHO is started from MASTER by typing

SØ.WHO:C n/l

the system responds

```
002       WHO       STARTED
USER      PORT
ARPA      18
FREE      21
```

At this point the user may exit the program by typing X.
Any other input causes the user-port listing to be repeated.